TOP FY 2000
Project Narrative

Cleveland Museum of Art

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Introduction

In 1999, The Personals, a 37-minute documentary film about the work and personal lives of a dozen older people in a stage play of their own making, won an Academy Award. Probably no demonstration is more graphic than this in illustrating the invigorating effect of an activity focused on the arts upon people experiencing disabilities, fragile health, depression or ennui. Perhaps most of all, as the participants themselves noted, the activity added meaning to their lives and the show itself was an enlivening evening for their age peers and young adults. The humanities, fine arts and performing arts all furnish many examples of personal and social productivity in later life.

Andrea Sherman points out in "Arts Participation: The Graying of America," part of the NEA's The Arts and Older Americans that "as America ages, we are witnessing an altered concept of age, one that includes surprising possibilities and uncharted territories." She continues by identifying ways in which art organizations can be involved in this age shift: "The arts can help us understand and define aging by being a vehicle to explore the conversation about what it means to grow old..."

The Cleveland Museum of Art (CMA) has a long, strong history of delivering extensive educational programming and developing close ties with the community. But more than historical practice, this is an intrinsic part of our mission. As an institution established "for the benefit of all the people forever," key strategic goals established by the Board of Trustees include: "To create a rich and diverse educational and public programs that serve and engage many different audiences and communities in an innovative and dynamic fashion," and "To become a national leader in the use of new and emerging technologies to enhance the value to society of the museum's collections, intellectual initiatives, and other activities."

Our project will provide high quality video-on-demand and live interactive programming with associated web-based content to a small, manageable sample of older persons and disabled persons, at home, at community centers and in residential facilities. Program access will be easily self-directed or facilitated for focused participant involvement at residential and community facilities. Individuals at home would be pre-qualified by their support organizations as capable of using a computer and would be equipped by their organizations with any necessary adaptive devices. With such tools, they will be able to pursue their continuing or awakened interests in the arts and other topics.

The proposed technology is new, commercially available, innovative and, to our knowledge, unique in the ways it will be applied. We will deliver MPEG-4 quality content using Cisco's IP/TV broadband multicast IP transport, heretofore used primarily in closed commercial and academic networks. Content will be delivered using a public ISP carrier to homes and facilities via high capacity SDLS lines. In a later stage of the project, we expect to embrace digital ITFS technology as well, which is expected to experience high growth, especially in the distance learning marketplace.

Most importantly, our program will explore and demonstrate how learning makes more meaningful the lives of older persons or disabled persons for whom a visit to the conventional

museum and similar sites would be difficult, inconvenient or impossible. We hope to learn how these extramural programs might stimulate such audiences to inquire and learn in satisfying ways. Additionally, we will develop a model and experience base that, by the nature of content and technology, is replicable throughout the country, especially as this technology becomes increasingly available.

Program Goals

The goal of the program is to enrich the lives of seniors and disabled adults through excellent arts programming delivered to them where they live and congregate via broadband technology. Arts-related programs will be delivered to participants at three types of sites: private homes (10, initially), assisted living residence facilities (3, initially) and community-based centers (2, initially). Gerontological research asserts that programs in the arts stimulate cognitive functions, enhance daily life experience, and trigger memories and creativity in older Americans. (See Appendix C for related research findings.) Similarly, physically and emotionally disabled adults will benefit from relevant and rewarding exchanges with cultural institutions through the new technologies proposed herein by making it possible for them -- for the first time -- to participate in a broad range of excellent programs from which they have been historically isolated. Specifically, we will:

- Develop an art program that provides a mechanism for intellectually stimulating older adult learners;

- Develop an interactive, art-based program that facilitates social engagement among older adult learners;

- Develop a delivery medium which can reduce the social isolation often associated with living in senior care facilities; and

- Develop a replicable model that can be used by other cultural organization seeking to deliver comparable content to similar populations via broadband technologies.

Content and Community Partners

In addition to the Cleveland Museum of Art, program content will be developed by a consortium of four additional arts and cultural institutions: the Cleveland Orchestra (recognized as one of the three finest symphony orchestras in the world), the Crawford Auto-Aviation Museum of the Western Reserve Historical Society (a repository for artifacts and archives related to the history of Ohio), WVIZ/PBS (the area's public broadcasting network and active producer of educational television programs), and the Anti-Defamation League of Greater Cleveland. The number of content partners may grow as the program matures. The combined resources of these organizations will provide a broad and varied menu of programs in the areas of the visual arts, jazz and classical music, theater and the applied arts, as well as a range of themed programs about general artistic, cultural and literary issues. By using a broad sweep of content type, the

proposed project will test and evaluate both different content genres and the new technologies as a means to increase the quality of life for our targeted population.

We are planning to provide programs four ways:

1) Video-on-demand that when archived provides content that would be unavailable otherwise,

2) Video-on-demand with access to web-based information to complement the broadcast,

3) Live broadcast,

4) Live broadcast with the ability to interact in real time.

All live broadcasts will be taped and archived so participants can view the program later. As programs are developed, the archive of materials will grow, resulting in an ever-expanding resource for participants. At the time of this application, we are projecting an archive of 300 programs by the end of year two, in addition to a minimum of six live broadcasts offered monthly. (See Appendix A for descriptions of sample content programs.) The art museum schedules over 200 lectures and concerts each year. In addition to this source material, custom-designed programs will be presented to connect this audience to the universal themes and topics that will inspire dialogue and recollections about their personal life experiences. These classes may be broad-based themes like family life, transportation or changing styles in music.

The five content providers have a history of successful collaborations. For example, the orchestra and museum collaborate on school tour programs that join art and music in one school outing. The orchestra and museum are also partners in the presentation of Jazz on the Circle, an annual series of eight professional jazz concerts held alternately at both facilities. The art museum and the Crawford Auto-Aviation Museum collaborate on distance learning programs to school communities throughout Ohio. In the past, the institutions have collaborated on programs such as "A Gathering of Automotive Excellence," a vintage car rally organized by Crawford and held in conjunction with the museum's *Bugatti* exhibition (Summer, 1999) and the development and implementation of the high school curriculum adjunct "Beauty, Race and Religion" co-developed by the art museum and the Anti-Defamation League.

The participant organizations bring a diverse population, including minorities, seniors from rural and urban environments, and those with varying levels of physical and mental activities. The following organizations that work with the senior community will participate in the design, delivery and evaluation of this program: Abington Arms, an assisted living community with a diverse group of residents located in the University Circle area; McGregor Home, an assisted living facility with a high percentage of very elderly African-American residents in the City of Cleveland; Judson Manor and Park Retirement Community, an assisted living facility in the proximity of the University Circle area with a high percentage of residents who have historically used area arts and cultural organizations; Cuyahoga County Board of Mental Retardation (CCBMR), East Cleveland Adult Training Center, a community center that aids severely

mentally and physically disabled individuals and their caretakers with a high percentage of African-American program participants and caretakers; Living and Learning Center of Lorain Community College, a community center with a high percentage of Hispanic seniors located in a rural community; and Services for Independent Living, an agency that promotes independent living for severely physically disabled persons in the Cleveland area.

The success of this partnership builds on successful alliances between the cultural institutions and community partners. For example, the museum has worked with CCBMR and their constituency for about three years in a studio program. Participants in this program are now showing their artworks in community exhibitions. Work with this population has already resulted in dramatic changes in their lives. The simple artistic freedoms like choice of colors or how to position the paper has increased confidence in participants who have attempted other personal achievements. One individual learned to climb stairs for the first time at the museum, while another spoke his name for the first time in his life.

Although partnerships between cultural institutions and those focusing on older and impaired persons have been attempted in the past, success has been limited because many seniors in these retirement communities cannot walk through the museum for a gallery tour or sit through an entire lecture. Other seniors are too far away from the museum to drive into events that are held in evening hours after dark. The new technology will also help overcome the inertia that naturally comes to seniors after moving into a retirement community. In addition, the project addresses the compelling needs of an adult audience that can not readily access the museum, auto museum or orchestra hall because of severe physical disabilities.

Representatives for the community partners have committed the time and talents of on-site staff to facilitate the use of the technology and to create follow-up activities at the private homes and community sites so their consumers take full advantage of the project. The partners agree to participate fully in the initiative; to take part in all the evaluations and surveys; and to integrate the program into their on going program activities by taking advantage of at least ten hours of programming per month. In addition, they will foster the use of the equipment for the video-on-demand portion of the program by encouraging participants and making the equipment accessible to them for independent use. Representatives from the community partners also agree to meet at least quarterly for review meetings to discuss the progress of the program.

Technology Plan

Although the museum has solid experience in developing and delivering more "traditional" video conference-based distance learning, we will assure technological success in this program through a core group of technology partners whose core competencies are congruent with their projected roles. These include: APK, Inc., the largest, most sophisticated ISP in Ohio who will provide network management and connection to our participants. WVIZ/PBS, the area's local public television station with a history of deploying educational programming in advanced technology, will manage the video servers; Cisco, Inc., whose Cleveland office has promised a special effort and contributed training to assure that the project "works," and Keane, Inc., a national IT management and development organization, currently working with WVIZ/PBS and the Museum who will help develop a custom browser-like graphical user interface and produce

periodic and final technical project evaluation reports. CMA Information Technology staff will manage the implementation process.

The technologies we plan to use are straightforward, manageable, and are just emerging as important features of the national technoscape. They are:

- SDSL (and later, digital ITFS) transport of high bandwidth interactive content to Program Participants homes or facilities;
- Cisco IP/TV turnkey high quality video-on-demand, live and broadcast services through multicast IP transmission using their own Broadcast, Control, and Archive servers. This will be augmented by the following Cisco IP/TV adjunct products:
- Question Manager, which allows program participants to submit text of questions on line to a program moderator
- SlideCast, which allows PC-generated presentation material to appear alongside a live or archive feed
- Web Presenter, which will allow concurrent use of video and web pages concurrently for complementary and enhanced content
- StreamWatch, which enables tracking of who and when participants are accessing what programs (See Appendix E for an overview of the technology and its implementation)
- A special custom browser interface to Cisco end-user content manager, in order to provide a friendlier interface that provides more and better content, scheduling, and user support information, and affinity with the interface requirements of an older audience.

We consider these technologies advanced and feasible. DSL broadband services are becoming increasingly available and affordable throughout the country. Similarly, digital wireless ITFS, expected to become available to this project during later stages, is expected to become a common standard for educational broadcast providers such as public TV stations, colleges and universities, and other organizations as head end equipment costs drop and spectrum space becomes more available. If available, the ITFS will allow us to add an additional 5 facilities to the proposed 10 facilities at no extra cost. The IP/TV product suite from Cisco, Inc. includes a variety of features germane to this project (e.g. Web Presenter, more efficient transmission using MPEG-4) which were released as recently as October 1999. We believe that MPEG-4, with a higher ratio of full-motion video quality to bandwidth required, will become a standard. Similarly, Cisco's IP/TV has recently included support for Windows Media Technology, suggesting it will be a long-lived technology.

Cisco's IP/TV was chosen over other prospective solutions because it provides a more comprehensive set of features than any other single product we could identify. Most important, it can provide very high quality full- or near full-screen video, that we believe is vital if our target audience of older and impaired persons is to find the content acceptable and engaging over long and repeated periods. We also decided that the implementation of a turnkey solution by a single well-known vendor had the added advantage of one-stop training and support. If our program model proves successful, new and more feature-rich products could simply replace the elements we have chosen. Furthermore, we believe that IP multicasting, which this project's technology

embraces, represents the next wave of Internet content delivery through public signal carriers. So far, although this technology is maturing in closed networks (which is IP/TV's primary target market), security and interdomain routing issues and policies still need to be resolved before it can reach broader public market. Meanwhile, by using the services of an ISP with end-to-end connection control, willing to enable multicast broadband for a small population we are demonstrating future possibilities of this technology. In addition, Cisco's Cleveland regional office has agreed to provide a heightened level of technical support for this project to help ensure its success.

In addition to the components described above, the project would require:

- Cameras, audio, and mixing equipment for recording and/or broadcasting content;
- Standard PC-type Internet computers at participant sites with appropriate monitors and connectivity devices
- Standard workstations for coordinating/editing/producing content and for Question Manager operating console;
- PC-anywhere or similar software installed at end user machines with modem connection for support. [See Budget Form 424A Supplement for detailed equipment specifications.]

WVIZ/PBS's core competency is content distribution of general television programming and special educational programming, including interactive distance learning and (analog) ITFS program distribution. By locating the Content Manager workstation at WVIZ/PBS to manage the Control and Archive Servers housed at the CMA, their staff would manage the downloading of archival material, the routing of broadcast programming emanating from CMA and their site, and would be responsible for archive server management and maintenance. Because at least one broadcast server must be located at any live program source location, both the museum and WVIZ/PBS, will each have their own broadcast servers. If WVIZ/PBS's ITFS system is converted to digital during the course of this project, we will have the option to engage and evaluate that technology with the current or expanded program participant group by installing the appropriate antennas at their sites and using WVIZ/PBS transmitters.

Although Cisco's Content Manager software includes a browser-like interface, we have determined its complexity not well suited to the target population. A custom interface will be designed by museum and WVIZ/PBS staff and informed by the participation of Program Participants during the initial planning period. Features will include rich information about video on demand opportunities, forthcoming broadcasts, and archived programs. It will also reflect the best knowledge on user interface design for older persons. The construction, testing, and implementation of the front end will be done by another key technology partner, Keane, Inc.

The last step in the project implementation is the installation and testing of equipment at the participant venues. This will be performed on-site by the museum's Education Department and IT technical staff, in coordination with APKnet support staff. Ongoing technical support to end users as well as content providers will be coordinated through the museum's Information Technology help desk, which will triage follow-up problems and issues as appropriate. IT help desk staff will also have PC-anywhere (or similar) remote control access to participant

workstations in order to provide the most effective hands on support. A Program Participant training program will be fully developed during the initial planning phase provided by the museum.

The final component of is technical evaluation. Complementing the formative and summative evaluations associated with the project's programmatic goals (see Appendix B), an ongoing technical evaluation will serve to identify and document all technical implementation, training and support problems and resolutions. This will be done by Keane, Inc. This should serve as an important source document for any organizations that would like to replicate in whole or part the program we are undertaking.

In summary, this technology implementation plan is limited to a few unique components and assigns specific responsibilities for implementation and operation to entities most likely to assure success. Implementation and ongoing operation will be coordinated through the CMA's Information Technology Department and the Technology Implementation Council. There will be cross membership in the Technology Implementation Council and the Content Advisory Council to assure coordination of activities and the meeting of mutual needs and expectations.

Evaluation Plans

Evaluation methodologies will be integrated from the very beginning of the planning phase and be ongoing through the life of the project. There will be two evaluation plans (content/program effectiveness and technology) that will be contracted by the museum to two organizations that are prominent and experienced in these fields. The Institute for Learning Innovation has developed the content/program effectiveness evaluation plan (see Appendix B). Keane, Inc. has developed the technology evaluation plan. All results will be disseminated in a variety of ways, including presentations at national conferences, papers published in relevant journals, and through postings on the museum's and Institute's websites.

Evaluation of the impact on participants is intrinsic to the project. We are looking for changes that might occur in the lives of our participants. These changes in outlook and behavior might be identified as liberating, life enhancing and fulfilling. In medical terms, such results might be identified as therapeutic, anti-depressive, and the catalyst for better health maintenance. Although the detailed evaluation methodology and instruments will be formalized during the initial planning phase of the grant period, and with participation with our community partners, we embark on this journey with a clear sense of where we are heading and what would constitute success.

We want to know if our program increases participants' contacts with others or the outside world. We will ask participants how they feel about the program and its effect on their lives. From participants and those assisting them (e.g., program supervisors), we would look for evidence that participants feel better about their lives, that their cognitive function has improved, and that they seem to be functioning more independently. We are hopeful that the proposed program activities will lead many participants into ad hoc and ongoing relationships with others in the program and their facilities. We are equally hopeful that participants will develop relationships in broader communities with shared interests. If these hopes bear out during the

implementation of the program (and the project will look for the evidence) the positive effects of the intellectual, social, and other activities may indeed reduce participants' perceived or real isolation and sense of depression. In the best of outcomes, there may even be benefits for our participants' families, caretakers, and medical service providers. (See Appendix C for related research findings.)

In order to provide an expert and independent voice to the evaluation process, we are fortunate to have enlisted the Institute for Innovative Learning, Inc., a non-profit research and evaluation organization specializing in "free choice" learning and arts-related programs. Their formative and summative evaluations, based on integrated evaluation planning with all program partners, will encompass direct observations by evaluators, focused and open-ended interviews, questionnaires for care givers, and case studies as appropriate. Interim and final reports will assess the efficacy of our approach and promote the sharing of our experience in broad and diverse professional communities. (See Appendix B for Program Evaluation Plan.)

We recognize that successful training of participants to use the system, resulting in comfort with, and enthusiasm for the system, will be key to evaluating the entire program's success. Therefore, we will offer a choice of training models including classroom and on-site training for participant organization staff; training sessions for peers of participants who have volunteered to assist in the project through the volunteer corps of content providers institutions. Rather than define the training methods at this time, they will evolve during the year one planning phase when the system can be seen, and interfaces modified. However, all participant computers will be equipped with remote control software (PC Anywhere) that will enable the CMA's support staff to take control and assist users by showing them how things are done.

Sustainability

It is the goal of the Cleveland Museum of Art to create a program that is not only replicable, but sustainable. At this time, we see key elements that encourage our belief in the longevity and sustainability of such a program. First, fundamental learning of technology will have occurred within all partnering institutions and among a wide sample of individuals including staff, participants, family members and caretakers. Also, with a demonstrably successful program in hand, program fees can be considered a viable option for generating revenue for content providers and technical facilities. A successful project could, in effect, create a marketplace for content providers and organizations and facilities serving older and disabled persons. As for the museum, we would have gained proof that new technologies can advance our institutional goals to discover and develop new and effective ways of reaching and educating people about our collections. The program could become a permanent one managed by our Education Department.

Request

The Cleveland Museum of Art respectfully requests that the U.S. Department of Commerce make a $545,000 award to be used to support the proposed project to bring excellent and varied arts programming to seniors and disabled adults where they live and congregate. The innovative use of broadband technology, the needs of the targeted populations, the nature and quality of the

content providers and the CMA's track record with successful community partnerships and distance learning programs for young people all work toward making this a solid, exciting proposition. An award from the Technology Opportunities Program in the category of Lifelong Learning and the Arts would help the CMA to fulfill its mission to be a national leader in using new technologies to advance the understanding of its collections and activities for the benefit of the broad community.